

## We Claim

1. An active implantable medical device, in particular a pacemaker, defibrillator, cardioverter or a multisite device, comprising:
  - means for detecting atrial events;
  - means for detecting ventricular events;
  - means for delivering an atrial stimulation;
  - means for delivering a ventricular stimulation, said means being able to deliver a ventricular stimulation pulse (V) after a programmed atrio-ventricular delay (AVD) following a detected atrial event and in the absence of detected ventricular event within said AVD;; and
  - means for detecting a fusion situation, said fusion situation detecting means being able to:
    - analyze a sequence of successive cardiac cycles by modifying the AVD from a first cardiac cycle to a following cardiac cycle, and
    - detect the presence or the absence of a spontaneous ventricular event occurring inside the modified AVD; and
  - means for determining an existence of a risk of fusion response to a detected a spontaneous ventricular event during at least one of the cardiac cycles of the sequence.
2. The device of claim 1, wherein the AVD is modified by successive lengthening of its duration during the successive cardiac cycles, and the sequence includes at least three cardiac cycles.
3. The device of claim 1, wherein the AVD is modified by shortening and lengthening of the duration of the programmed atrio-ventricular delay, and the sequence includes at least three cardiac cycles having a short AVD, a programmed AVD and a long AVD respectively.

4. The device of claim 3, further comprising means for evaluating a capture parameter, and wherein the fusion situation detection means comprises means for acquiring a capture parameter for each cardiac cycle during the successive cycles of the sequence, and means for comparing the acquired capture parameters, two by two, wherein the fusion risk existence means determines the existence of a risk of fusion when at least two of the acquired capture parameter values are within a percentage of tolerance.

5. The device of claim 3, wherein the fusion situation detection means further comprises means for controlling, on each cardiac cycle, the stability of the atrial configuration, stimulated or spontaneous, and means for inhibiting the analysis of the sequence of successive cardiac cycles in response to a determined change of the configuration.

6. The device of claim 1, further comprising means for evaluating a capture threshold parameter, where in the fusion situation detection means operates to inhibit the automatic measurement of the capture threshold in the event of proven existence of a risk of fusion.